High Temperature 2002 vol.40 N2, pages 166-170

# Accuracy in calculating the parameters of scattered radiation

Shigapov A., Yarkhamov S.
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

## Abstract

The angular characteristics of radiation scattered by particles are calculated. The effect of the accuracy of the number representation during computations (number of decimal places) on the calculation results is analyzed. It is shown that, in order to obtain reliable results within the available algorithm, it is often necessary to use a precision that is much higher than computer precision. An algorithm is proposed and implemented that makes it possible to avoid going beyond computer precision in calculations in a considerably extended range of input parameters. A simple approximate formula is proposed to restrict the number of terms in infinite sums, which ensures the required accuracy in calculating the scattering indicatrix and the radiative properties of particles.

http://dx.doi.org/10.1023/A:1015282602406